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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/817,141 | 04/02/2004 | John L. Stoffel | 200400537-1 | 1498 |
| 22879 7590 01/08/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400 | | | EXAMINER CORDRAY, DENNIS R | |
| | | | ART UNIT 1791 | PAPER NUMBER |
| | | | NOTIFICATION DATE 01/08/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/817,141 | Applicant(s) STOFFEL ET AL. | |
| | Examiner Dennis Cordray | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-13,17,19-21,25,29-43 and 45-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-42 is/are allowed.
- 6) ☒ Claim(s) 1,5-7,11-13,19,20,43 and 48 is/are rejected.
- 7) ☒ Claim(s) 8-10,13,17,21,25 and 45-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

By this Office Action, the finality of the previous Office Action is hereby vacated and prosecution is reopened. The indicated allowability of claims 21-23 is withdrawn in view of the newly discovered prior art. Rejections based on the newly discovered references follow.

Claim Objections

Claim 13 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 13 recites that introduction of both the cationic polymer and the metallic salt occurs in the surface sizing system. Claim 13 depends from Claim 12, which recites introduction of the cationic polymer before the surface sizing process. Claim 13 thus expands the scope of Claim 12 to include the surface sizing system.

Claim Rejections - 35 USC § 102 and 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5-7, 11, 13, 19-20, 43 and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Malhotra et al (5500668).

Claims 1, 5-7, 13, 43 and 48: Malhotra et al ('668) discloses a recording sheet (printing medium) comprising a substrate, which can be a paper made from wood fibers (fibrous substrate), a monoimERIC salt and a binder (Abs; col 11, lines 28-61). In some embodiments, the salt is sodium chloride, (col 12, lines 44-58; col 13, lines 3 and 42), which is present on the substrate in an amount from 0.6 to about 40 gsm (col 18, lines 40-49), and the binder is poly (methylene-guanidine) hydrochloride, which is a cationic salt having monomeric units that correspond to structural formula 1 (col 18, lines 53-55; col 21, lines 57-59). The ratio of salt to binder is from 90:10 to 1:99 (col 23, lines 6-12), thus the cationic guanidine polymer and sodium chloride are present in amounts that overlay the claimed range.

The salt and binder are applied as a coating in an aqueous solution by dip coating, in which the paper is transported below the surface of the coating composition and the exposed site is saturated, followed by removal of excess coating by squeeze rollers (col 18, lines 53-55; col 25, lines 20-24 and 48-55). Due to the porous nature of cellulosic papers, the saturation by the coating composition and the squeezing out of excess coating, some of the coating will penetrate the interfiber spaces at the surface of the paper, thereby being mixed with and disposed within the fibrous component or, at least, some mixing and penetration would have been obvious to one of ordinary skill in the art.

Claim 11: Malhotra et al ('668) discloses examples wherein the papers are printed, thus they are printing papers (cols 33-35, Examples V and VI). Writing paper,

drawing paper and photobase paper would also have been obvious to one of ordinary skill in the art.

Claims 19 and 20 are product-by-process claims. The product of Malhotra et al ('668) appears to be the same as or similar to the claimed product, a paper comprising a cationic guanidine polymer and sodium chloride, although produced by a different process. The burden therefore shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). "In the event any differences can be shown for the product of the product-by-process claims 19 and 20 as opposed to the product taught by the reference Malhotra et al ('668), such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al ('668) in view of Cousin et al (4554181).

Malhotra et al ('568) does not disclose adding the binder and salt to the substrate prior to the sizing process.

Cousin et al teaches that surface properties of papers can be enhanced by coating at any time after the paper has been dewatered or has left the wire (col 6, lines 14-15 and 47-56), thus the coating can occur on a drained but undried paper prior to the size press, which is a surface sizing process.

The art of Malhotra et al ('668), Cousin et al and the instant invention is analogous as pertaining to the application of guanidine polymers to paper. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the coating to the undried paper prior to the size press as a functionally equivalent process.

Claims 1, 7, 11, 19-20, 43 and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Malhotra et al (5714270).

1, 7, 43 and 48: Malhotra ('270) discloses a recording sheet comprising wood fibers (fibrous substrate) an image receiving coating on at least one side of the sheet, the coating comprising a binder, a dye fixative and an optional pigment (Abs; col 8, lines 42-51; col 10, line 66 to col 11, line 7). In some embodiments, the binder is poly (methylene-guanidine) hydrochloride, which is a cationic salt having monomeric units that correspond to structural formula 1 (col 11, lines 19-20; col 14, lines 21-23).

The coating is applied in an aqueous solution by dip coating, in which the paper is transported below the surface of the coating composition and the exposed site is saturated, followed by removal of excess coating by squeeze rollers (col 26, lines 37-40 and 64-67; col 27, lines 1-4). Due to the porous nature of cellulosic papers, the saturation by the coating composition and the squeezing out of excess coating, some of the coating will penetrate the interfiber spaces at the surface of the paper, thereby being

mixed with and disposed within the fibrous component or, at least, some mixing and penetration would have been obvious to one of ordinary skill in the art.

In an example, the slurry of papermaking pulp, comprising hardwood and softwood fibers, is diluted to 0.4% solids and enriched with sodium chloride in an amount of 0.25% by weight of the slurry. Paper sheets are formed and treated with an image receiving coating (cols 29-30, Example I). The paper thus comprised sodium chloride disposed within the fibers.

Claim 11: Malhotra et al ('270) discloses examples wherein the papers are printed, thus they are printing papers (cols 29-31, Examples I to III). Writing paper, drawing paper and photobase paper would also have been obvious to one of ordinary skill in the art.

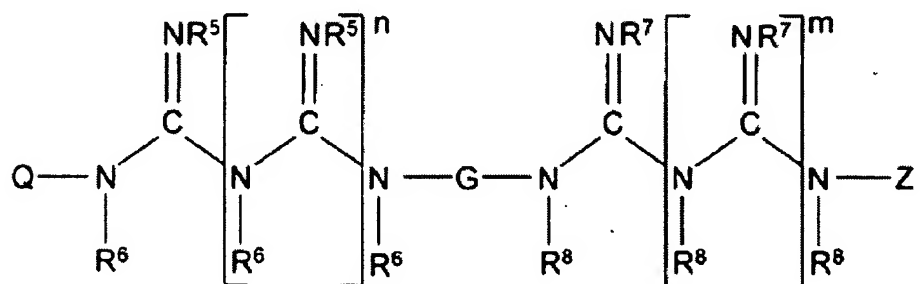
Claims 19 and 20 are product-by-process claims. The product of Malhotra et al ('270) appears to be the same as or similar to the claimed product, a paper comprising a cationic guanidine polymer and sodium chloride, although produced by a different process. The burden therefore shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). "In the event any differences can be shown for the product of the product-by-process claims 19 and 20 as opposed to the product taught by the reference Malhotra et al ('270), such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"

Allowable Subject Matter

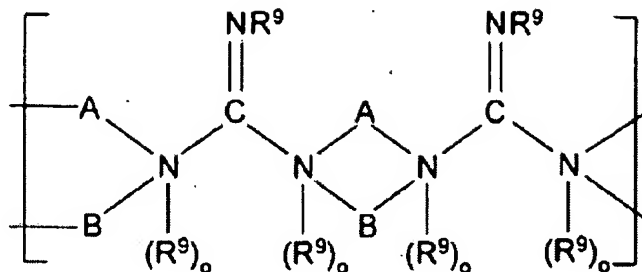
7. Claims 29-42 are allowable over the cited prior art.
8. Claims 8-10, 17, 21, 25 and 45-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding Claims 8-10, 17 and 45-47, the claimed polymers have no hydrochloride and would not be expected to function similarly to the guanidine hydrochloride as binders in the cited prior art. The prior art discloses a polyvalent metallic salt with the claimed polymers, whereas sodium chloride is a monovalent salt and would not be expected to function similarly to a polyvalent salt (see Waller, Jr, 6537650, col 3, lines 28-51; col 5, lines 61-64; col 6, lines 19-22).

Regarding claims 21, 25 and 29-42, guanidine polymers of the general formula



shown on p 10 of the instant Specification are disclosed in prior art (see Nigam '539, p 10, par 165 and Nigam '023, col 8, line 40 to col 9, line 21), wherein the group G is a straight or branched alkyl, alkenyl or alkynyl group, substituted or unsubstituted. The claimed polymers of the form



Conclusion

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRC


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